109. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUL78 has been inactivated.

B3 cancel

110. (New) The vaccine of claim 109, wherein the segment of the rhCMV genome encoding rhUL78 has been deleted.

RESPONSE TO RESTRICTION REQUIREMENT

In response to the Restriction Requirement, Applicants elect without traverse to prosecute the claims in Group VI, namely claims 77-110. These new claims introduced in this amendment fall within group VI. Claims 72-76, which previously were in this group, have been canceled without prejudice or disclaimer. Support for the new claims can be found throughout the specification including, for example, at page 45, line 7 to page 48, line 22.

In response to the species election requirement, Applicants elect rhUS28.5. In making this species election, it is Applicants' understanding that the Office will follow the procedure set forth in MPEP §809.02(c), which provides for a complete action on the merits of all claims readable on the elected species, and in MPEP §803.02, whereby upon the finding of allowable species, examination will continue with the non-elected species until all species have been examined or a non-allowable species is found.

Claims 77-80, 92-96, 105 and 106 are readable upon the elected species.

REMARKS

I. Status of the Claims

Claims 1-76 are pending. Upon entry of this amendment, claims 72-76 are canceled without prejudice or disclaimer, and new claims 77-110 added. The claims that are canceled are not canceled for reasons of patentability. Instead, the new claims are introduced to focus on subject matter of commercial importance.

The amended and new claims find support throughout the specification, including, for example, at page 45, line 7 to page 48, line 22.

II. Amendment to the Specification

The Cross-Reference to Related Application section has been updated to provide information about related applications that was unavailable at the time of filing.

The title has been amended to reflect more accurately the subject matter of the current application in view of the claims elected for prosecution in response to the current restriction requirement.

The remaining amendment to the specification simply clarifies the location of the UL33 open reading frame in the CMV genome. This amendment is consistent with the discussion at page 1, line 34 and similar to the usage on page 9, line 3 for "unique short region."

None of these amendments add new matter.

III. Marked Up Version

A "Version with Markings to Show Changes Made" is attached to show the amendments that have been made to the specification and claims.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

Scott L. Ausenhus
Reg. No. 42,271

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 303-571-4000
Fax: 415-576-0300
SLA:sla
DE 7091273 v2

APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The title has been amended as follows:

~~INHIBITION OF CMV INFECTION AND DISSEMINATION~~

CMV VACCINES

The CROSS-REFERENCE SECTION TO RELATED APPLICATIONS beginning on page 1, line 4, has been amended as follows:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 60/229,365, filed August 30, 2000, which is incorporated herein by reference in its entirety for all purposes.

Related subject matter is described in co-owned U.S. Application No. 09/944,163, filed August 30, 2001, ~~entitled "Modulators of US28," (Attorney Docket No. 019934-000310US/PC),~~ which claims the benefit of U.S. Provisional Application No. 60/228,974, filed August 30, 2000; and in U.S. Provisional Patent Application No. 60/316,386, filed August 30, 2001, ~~entitled "Bicyclic Compounds as Inhibitors of Chemokine Binding to US 28" (Attorney Docket No. 019934-001000US);~~ and in U.S. Application No. 09/944,051, filed August 30, 2001, ~~entitled "Reagents and Methods for the Diagnosis of CMV Dissemination" (Attorney Docket No. 019934-000910US/PCT),~~ which claims the benefit of U.S. Provisional Patent Application No. 60/229,191 filed August 30, 2000, the disclosures of each of the foregoing applications being incorporated herein by reference in their entirety for all purposes.

The paragraph beginning at line 25 of page 9 has been amended as follows:

The term "UL33" or "human UL33" refers to open reading frame 33 of the unique long region of the genome of human strains of CMV and proteins encoded by this reading frame. The nucleotide and amino acid sequences for an exemplary UL33 are set forth in SEQ ID NOS:19 and 20, respectively. The term also includes various splice variants. For example, the term can include the splice variant having the nucleotide and amino acid sequences of SEQ ID NOS:21 and 22, respectively. Those of skill can identify other such splice variants using programs ~~desgined~~ designed to identify splice variants such as the "Genefinder", "Genehunt" or "GRAIL" programs available ~~at the~~ from CMS Molecular Biology ~~resource found at www.unl.edu~~.

IN THE CLAIMS:

Claims 72-76 are canceled without prejudice or disclaimer, and the following claims have been amended as indicated without prejudice or disclaimer.

72-76 Canceled

77. (New) A vaccine comprising at least a portion of a CMV genome that can generate an immune response in a mammal, wherein the CMV genome or portion thereof is attenuated through inhibition of expression or activity of US28 and/or a US28 homolog.

78. (New) The vaccine of claim 77, further comprising a pharmaceutically acceptable carrier.

79. (New) The vaccine of claim 78, wherein the carrier is an adjuvant that stimulates a T-cell response in the mammal.

80. (New) The vaccine of claim 79, wherein the carrier is Freund's adjuvant or Ribi adjuvant.

81. (New) The vaccine of claim 77, wherein the mammal is a human and the CMV genome is HCMV.

82. (New) The vaccine of claim 81, wherein at least a segment of the HCMV genome encoding US28, UL33 and/or UL78 has been inactivated.

83. (New) The vaccine of claim 82, wherein the segment of the HCMV genome encoding US28, UL33 and/or UL78 has been deleted.

84. (New) The vaccine of claim 82, further comprising a pharmaceutically acceptable carrier.

85. (New) The vaccine of claim 84, wherein the carrier is an adjuvant that stimulates a T-cell response in the mammal.

86. (New) The vaccine of claim 84, wherein at least a portion of the HCMV genome encoding US28 has been inactivated.

87. (New) The vaccine of claim 86, wherein the segment of the HCMV genome encoding US28 has been deleted.

88. (New) The vaccine of claim 84, wherein at least a portion of the HCMV genome encoding human UL33 has been inactivated.

89. (New) The vaccine of claim 88, wherein the segment of the HCMV genome encoding human UL 33 has been deleted.

90. (New) The vaccine of claim 84, wherein at least a portion of the HCMV genome encoding human UL78 has been inactivated.

91. (New) The vaccine of claim 90, wherein the segment of the HCMV genome encoding human UL78 has been deleted.

92. (New) The vaccine of claim 77, wherein the mammal is rhesus monkey and the CMV genome is rhCMV.

93. (New) The vaccine of claim 92, wherein at least a portion of the rhCMV genome encoding rhUS28.1, rhUS28.2, rhUS28.3, rhUS28.4, rhUS28.5, rhUL33, and/or rhUL78 has been inactivated.

94. (New) The vaccine of claim 93, wherein the segment of the rhCMV genome encoding rhUS28.1, rhUS28.2, rhUS28.3, rhUS28.4, rhUS28.5, rhUL33, and/or rhUL78 has been deleted.

95. (New) The vaccine of claim 93, further comprising a pharmaceutically acceptable carrier.

96. (New) The vaccine of claim 95, wherein the carrier is an adjuvant that stimulates a T-cell response in the mammal.

97. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUS28.1 has been inactivated.

98. (New) The vaccine of claim 97, wherein the segment of the rhCVM genome encoding rhUS28.1 has been deleted.

99. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUS28.2 has been inactivated.

100. (New) The vaccine of claim 99, wherein the segment of the rhCVM genome encoding rhUS28.2 has been deleted.

101. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUS28.3 has been inactivated.

102. (New) The vaccine of claim 101, wherein the segment of the rhCVM genome encoding rhUS28.3 has been deleted.

103. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUS28.4 has been inactivated.

104. (New) The vaccine of claim 103, wherein the segment of the rhCVM genome encoding rhUS28.4 has been deleted.

105. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUS28.5 has been inactivated.

106. (New) The vaccine of claim 105, wherein the segment of the rhCVM genome encoding rhUS28.5 has been deleted.

107. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUL33 has been inactivated.

108. (New) The vaccine of claim 107, wherein the segment of the rhCMV genome encoding rhUL33 has been deleted.

109. (New) The vaccine of claim 95, wherein at least a portion of the rhCMV genome encoding rhUL78 has been inactivated.

110. (New) The vaccine of claim 109, wherein the segment of the rhCMV genome encoding rhUL78 has been deleted.